Isolation, cultivation and characterization of adult murine prostate stem cells.

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Public Summary:

Scientific Abstract:
The successful isolation and cultivation of prostate stem cells will allow us to study their unique biological properties and their application in therapeutic approaches. Here we describe step-by-step procedures on the basis of previous work in our laboratory for the harvesting of primary prostate cells from adolescent male mice by a modified enzymatic procedure; the isolation of an enriched population of prostate stem cells through cell sorting; and the cultivation of prostate stem cells in vitro and characterization of these cells and their stem-like activity, including in vivo tubule regeneration. Normally, it will take approximately 8 h to harvest prostate cells, isolate the stem cell-enriched population and set up the in vitro sphere assay. It will take up to 8 weeks to analyze the unique properties of the stem cells, including their regenerative capacity in vivo.